

DETROIT DIESEL CORPORATION

EXECUTIVE ORDER A-290-0130 New On-Road Heavy-Duty Engines Page 1 of 2 Pages

Pursuant to the authority vested in the Air Resources Board by Health and Safety Code Division 26, Part 5, Chapter 2; and pursuant to the authority vested in the undersigned by Health and Safety Code Sections 39515 and 39516 and Executive Order G-02-003;

IT IS ORDERED AND RESOLVED: The engine and emission control systems produced by the manufacturer are certified as described below for use in on-road motor vehicles with a manufacturer's GVWR over 14,000 pounds. Production engines shall be in all material respects the same as those for which certification is granted.

MODEL YEAR	ENGINE FAMILY	ENGINE SIZES (L)	FUEL TYPE 1	STANDARDS & TEST	INTENDED SERVICE	ECS & SPECIAL FEATURES 3	DIAGNOSTIC 6				
2009	9DDXH12.8DJD	12.8	Diesel	PROCEDURE	CLASS -	DDI, TC, CAC, ECM, EGR, OC, PTOX	EMD				
1	engine's idle ns control 30g		AL	DITIONAL IDLE EN	ISSIONS CO		<u> </u>				
ENGINE (L	-}		ENGINE MO	DELS / CODES (ra	ted power, in	ho)					
12.8	12.8 ENGINE MODELS / CODES (rated power, in hp) See attachment for engine models and ratings										
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					·						
* =not applic	able; GVWR=gross vehicle v	veight rating; 13 CCR	xyz=Title 13, California Code	of Regulations, Secti	on xvz: 40 CFR	86.abc=Title 40, Code of Federal Regulations	D'a ette e oo				
CNG/IN	horsepower; kw=kilowatt; hi	r=hour;			o, 10 01 11	totabe - Inte 40, Code of Feberal Regulations	, Section 86.abc;				
2 L/M/H H	DD=light/medium/heavy heav	raigas; LPG≕iquerieo	petroleum gas; E85=85% e	thanol fuel; MF =multi	fuel a.k.a. BF=	b) fuel; DF=dual fuel; FF=flexible fuel;					
3 ECS=en	ission control system: TWC	OC⇒broo wawawidini-	an bus; HbO=neavy duty Of	to;							
up catalyst;	DPF=diesel particulate filter;	PTOX=periodic trap or	g catalyst; NAC=NOx adsor; xidizer: HO2S/O2S=heated/	otion catalyst; SCR-U	/ SCR-N=select	tive catalytic reduction – urea / – ammonia; Wi ir-fuel-ratio sensor (a.k.a., universal or linear ox	U (prefix) =warm-				
TBI=throttle	body fuel injection: SEI/MEI=	sequentiat/multi-port 6	of injustions DCI-disease	Aygen sensor, mars	MACS-nearecta	ir-ruel-ratio sensor (a.k.a., universal or linear ox	(voen sensor):				
control modu	ule; EM=engine modification;	:GR / EGR-C=exhaust 2 {orefix}=parallel: /2	gas recirculation / cooled E0	R; PÁIR/AIR=pulsed	secondary air ir	uretor; IDI/DDI=indirect/direct diesel injection; njection; SPL=smoke puff limiter; ECM/PCM=	engine/powertrain				
ESS=end	ine shutdown system (ner 13	CCR 1956 BlaVEVAV	11: 30a=30 a/a NOv /per 40	000 4000 Bt 34000							
(per 13 CCR	1956,8(a)(6)(D); Exempt=e	xempted per 13 CCR 1	956.8(a)(6)(B) or for CNG/LI	IG fuel systems; N/A:	not applicable (combustion auxiliary power system; ALT=atte (e.g., Otto engines and vehicles);	amative method				
EMD=60	ngine manufacturer diagnostic	system (13 CCR 1971); OBD=on-board diagnostic	system (13 CCR 197	1.1);						

Following are: 1) the FTP exhaust emission standards, or family emission limit(s) as applicable, under 13 CCR 1956.8; 2) the EURO and NTE limits under the applicable California exhaust emission standards and test procedures for heavy-duty diesel engines and vehicles (Test Procedures); and 3) the corresponding certification levels, for this engine family. "Diesel" CO, EURO and NTE certification compliance may have been demonstrated by the manufacturer as provided under the applicable Test Procedures in lieu of testing. (For flexible- and dual-fueled engines, the CERT values in brackets [] are those when tested on conventional test fuel. For multi-fueled engines, the STD and CERT values for default operation permitted in 13 CCR 1956.8 are in

in g/bhp-hr	NMHC		NOx		NMHC+NOx		CO		PM		нсно	
	FTP	EURO	FTP	EURO	FTP	EURO	FTP	EURO	FTP	EURO	FTP	EURO
STD	0.14	0.14	*	*	*	*	15.5	15.5	0.01	0.01	*	LONG
FEL	*	*	1.16	1.16	1.3	1.3	*	*	*	+ 0.01	*	-
CERT	0.01	0.00	1.08	0.92	1.09	0.92	0.1	0.0	0.003	0.004	*	-
NTE	0.21		1.74		2.0		19.4		0.02		*	

dybhp-hr=grams per brake horsepower-hour; FTP=Federal Test Procedure; EURO=Euro III European Steady-State Cycle, including RMCSET=ram mode cycle supplemental emissions testing; NTE=Not-to-Exceed; STD=standard or emission test cap; FEL=family emission limit; CERT=certification level; NMHC/HC=non-methane/hydrocarbon; NOx=oxides of nitrogen; (Rev.: 2007-02-25)

BE IT FURTHER RESOLVED: Certification to the FEL(s) listed above, as applicable, is subject to the following terms, limitations and conditions. The FEL(s) is the emission level declared by the manufacturer and serves in lieu of an emission standard for certification purposes in any averaging, banking, or trading (ABT) programs. It will be used for determining compliance of any engine in this family and compliance with such ABT programs.

BE IT FURTHER RESOLVED: Except in vehicle applications exempted per 13 CCR 1956.8(a)(6)(B), engines in this engine family certified under 13 CCR 1956.8(a)(6)(C) [30 g/hr NOx] and section 35.B.4 of the incorporated "California Exhaust Emissions Standards and Test Procedures for 2004 and Subsequent Model Heavy-Duty Diesel Engines and Vehicles" adopted Dec. 12, 2002, as last amended Sep. 1, 2006, shall be provided with an approved "Certified Clean Idle" label that shall be affixed to the vehicle into which the engine is installed.

BE IT FURTHER RESOLVED: The listed engine models have been certified to the split engine family standards under 13 CCR 1956.8(b) [diesel engines] or 13 CCR 1956.8(d) [Otto engines] and the incorporated 40 CFR 86.007-15(m)(9).



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BE IT FURTHER RESOLVED: For the listed engine models the manufacturer has submitted the materials to demonstrate certification compliance with 13 CCR 1965 (emission control labels) and 13 CCR 2035 et seq. (emission control warranty).

BE IT FURTHER RESOLVED: The listed engine models are conditionally certified pending final approval of "Certified Clean Idle" vehicle label. The manufacturer has until November 1, 2008 to resolve concerns on this conditional certification. This Executive Order is effective through November 1, 2008; engines produced after this date are not covered by this Executive Order unless provided with a "Certified Clean Idle" label approved by ARB. In addition, the engine models listed above are certified on the condition that vehicles into which the conditionally certified engines are installed and to which were affixed a "Certified Clean Idle" label that does not have final ARB approval shall have an ARB approved "Certified Clean Idle" label affixed no later than December 31, 2009.

Engines certified under this Executive Order must conform to all applicable California emission regulations.

The Bureau of Automotive Repair will be notified by copy of this Executive Order.

Executed at El Monte, California on this

__ day of July 2008

Annette Hebert, Chief

Mobile Source Operations Division

Attachmut - A - 290 - 0130

Engine Model Summary Template

Engine Family	1.Engine Code	2.Engine Model	3.BHP@RPM (SAE Gross)	4.Fuel Rate: mm/stroke @ peak HP (for diesel only)	5.Fuel Rate: (lbs/hr) @ peak HP (for diesels only)	6.Torque @ RPM (SEA Gross)	7.Fuel Rate: mm/stroke@peak torque	8.Fuel Rate: (lbs/hr)@peak torque	9.Emission Control Device Per SAE J1930
9DDXH12.8DJD	Code I	OM460LA	450 @ 1900	278	177.7	1650 @ 1200	315	127.2	MOM, TC, ZAC
9DDXH12.8DJD	Code II	OM460LA	450 @ 1900	278	177.7	1550 @ 1100	297	109.9	EGR, DOC.
9DDXH12.8DJD	Code III	OM460LA	435 @ 1900	265	169.4	1550 @ 1100	297	109.9	δPε
9DDXH12.8DJD	Code IV	OM460LA	410 @ 1900	244	156.0	1450 @ 1100	276	102.2	(all ratings)
9DDXH12.8DJD	Code V	OM460LA	370 @ 1900	218	139.4	1450 @ 1100	276	102.2	
9DDXH12.8DJD	Code VI	OM460LA	370 @ 1900	218	139.4	1250 @ 1100	238	88.1	
9DDXH12.8DJD	Code VII	OM460LA	350 @ 1900	206	131.7	1350 @ 1100	256	94.8	

DAT, TC, CAC, ECM, EGR, OC, PTOX